

On returning a few days later to show the site to Messrs. S. Paul Jones and Warner Taylor, Wilson Club members from Madison, we were surprised and delighted to see the male circling over the Rock in company of another mate, perhaps the widow from Ferry Bluff! Though pirates, and pests to the neighboring farmers without doubt, we could not help hoping that these birds, so inspiring to observe, would nest again on picturesque Gibraltar, probably their home for ages.

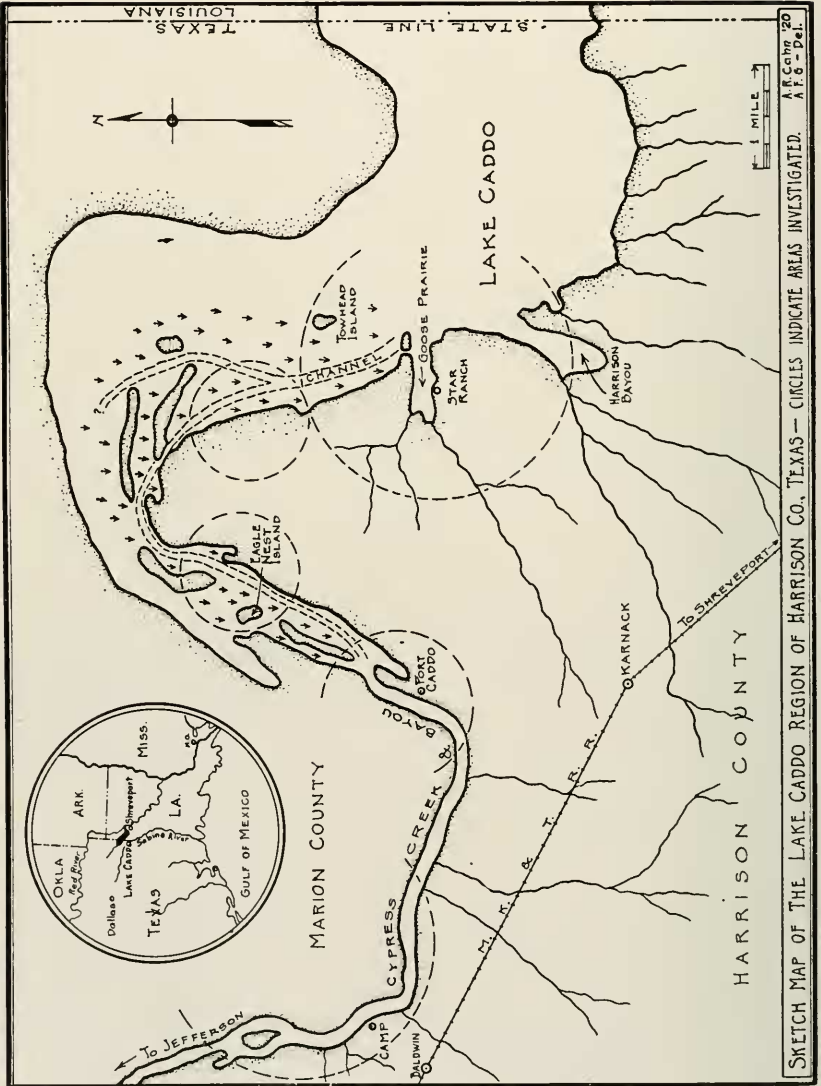
No opportunity presented itself to investigate a report that Duck Hawks nested in the Devil's Lake region, a scant five miles to the north, where the necessary combination of precipice and water also occurs.

Milwaukee, Wis.

SUMMER BIRDS IN THE VICINITY OF
LAKE CADDO, HARRISON COUNTY,
TEXAS

BY ALVIN R. CAHN

Probably few states in the union can compare with Texas from the point of view of topographic diversity and climatic variations. From the swampy marshes on the gulf coast to the heavily timbered regions, and from the great open, semi-arid plains to the mountainous regions of the trans-Pecos country, there extends practically every possible type of environment one could hope to find within any single state. Such diversity of conditions would lead even the uninitiated to suspect a large biota in point of number of species, and such a suspicion is most certainly verified in fact. Coupled with this environmental diversity is the fact that Texas lies at the focal point of many of the routes taken by our migratory birds, so that it is not surprising that this state should head the avifaunal list with 546 species within its borders. Within this area of 265,780 square miles the species of the east meet many of those of the west, and a certain amount of over-lapping occurs.



SKETCH MAP OF THE LAKE CADDO REGION OF HARRISON CO., TEXAS — CIRCLES INDICATE AREAS INVESTIGATED. A. F. GARDNER, A. F. G. - Del.

From the ornithological point of view Texas is still virgin territory. Certain regions, such as the Waco district, have been worked up and lists published, yet some of these lists, coming from near the same localities, do not always agree as to the abundance—or even the species—of birds in the region. This divergence is due largely to yearly variations in migratory movements as dependent upon climatic conditions, and to the very definite restriction of paths of migration due to topographic conditions—a restriction drawn much more closely in Texas than in any other region I have seen—as I hope to show in a later paper. By far the largest portion of the state is still untouched in so far as detailed avifaunal studies are concerned, and until these studies are made, nothing will be definitely known as to the exact limit of the ranges of the various species found within this great state. To say that a species “occurs in Texas” is about as vague and valueless as to say another “occurs in Europe.” In order to help further the work already done along the lines of investigation of specific regions, the present writer has undertaken avifaunal studies in various parts of the state, the first of which is offered herewith.

In all the ornithological literature which the writer has examined, there has been found not one reference to Lake Caddo. This lake, one of the largest (if not *the* largest) in the south, is, roughly speaking, wishbone shaped, the neck and shoulder of the northern wing lying in Louisiana, the whole of the southern wing and the tip of the northern wing in Texas. It is with this southern wing, some 20 miles in length, separating Marion and Harrison counties, that this paper deals. So far as the writer knows, there is no map published of the region under discussion that even approaches accuracy. To give future workers some idea of the regions investigated by the writer, the accompanying sketch map is offered. Be it understood, however, that the actual conditions are far more complicated than the map seems to indicate!

Lake Caddo lies in a shallow basin, hemmed in by an

almost impenetrable cypress swamp, making the exact outline of the lake somewhat indefinite at best. The shores are so low that any slight rise in the level of the water tends to change entirely the outline of parts of the lake. During the writer's stay in May and June (1920) the heavy rains up country had raised the water so that in many places trees for hundreds of feet beyond the ordinary boundary of the lake stood two feet or more in water. From this it will be seen that a map of the region this week may prove entirely incorrect next month! In many places the lake is shallow, and studded with knotty cypresses (*Taxodium distichum*). Islands are abundant—though they may often be under water—and furnish ideal breeding grounds for herons, water-turkeys, ibis and other seclusion-loving species. Spanish moss (*Dendro-pogon usneoides*) drapes everything, and the semi-tropical aspect is carried further by the abundance of water moecasins (*Ankistrodon piscivorous*) and alligators (*Alligator mississippiensis*). The characteristic trees of the highlands surrounding the swamp itself are the oaks, with the white (*Quercus alba*), red (*Q. rubra*), Black Jack (*Q. marylandica*) and live (*Q. virginia*) predominating. On many of the ridges the short-leaved pine (*Pinus echinata*) is common.

The Caddo lake region is to-day a bird paradise, and one of the very few spots in all Texas that is suitable as a game refuge. Within its bounds the last remnants of nearly extinct species still cling to existence. If this region could be set aside, it is well within the realm of possibility that such species might still, under adequate protection, be saved for future generations. Unfortunately, however, the concept of conservation in Texas is still beyond the grasp of the public mind, and the sentiment for protection of wild life is almost lacking. It would seem as if every state must learn the lesson of conservation for itself, for it is rare that one state profits by the experience of its neighbors, costly as it may have been. In spite of its great area, the wild life of Texas is going—not rapidly, but steadily.

The writer wishes to express his sincere appreciation to the following people who made possible his visit to Lake Caddo: Mr. and Mrs. W. C. and Dr. and Mrs. J. F. Rosborough of Marshall, Texas, and to Mr. C. J. Rosborough, Jr., who accompanied the writer to the lake, where their knowledge of the region made movement possible.

A list of the summer birds of the region follows:

1. **Pied-billed Grebe.** *Podilymbus podiceps* (Linn.).

Three seen near Star ranch, and two at Eagle Nest Island and Baldwin, the latter accompanied by two young.

2. **Laughing Gull.** *Larus atricilla* Linn.

The one seen over Eagle Nest Island was most likely a straggler from the coastal breeding grounds, having possibly followed up the course of the Sabine or Red river.

3. **Forster's Tern.** *Sterna forsteri* Nutt.

Two seen near Marshall, and several observed over the lake. Probably either stragglers from the coast, or late (non-breeding) migrants.

4. **Common Tern.** *Sterna hirundo* Linn.

Seen over the lake, and on one occasion observed carrying a small fish, indicating that the species may breed in the vicinity of Star ranch.

5. **Anhinga.** *Anhinga anhinga* (Linn.).

A colony composed of between seventy-five and one hundred pairs found breeding on Engle Nest. On June 8 this rookery contained eggs nearly ready to hatch, and young birds about two weeks out of the eggs. Seen commonly at all points of the lake.

6. **Mexican Cormorant.** *Phalacrocorax vigua mexicanus* (Brandt).

Two seen near Eagle Nest Island, but there is no evidence of breeding.

7. **Hooded Merganser.** *Lophodytes cucullatus* (Linn.).

Several individuals of both sexes seen at various points on the lake. It is not unlikely that they breed in the vicinity.

8. **Mallard.** *Anas platyrhynchos* Linn.

Three mallards were seen on the lake. These birds may well have been "cripples" from the preceding winter, as the species does not belong here in the breeding season.

9. **Mottled Duck.** *Anas fulvigula maculosa* (Senn.).

A single pair, flushed in Goose Prairie, is the only evidence at hand concerning this species, which must be considered rare in this section of the state.

10. **Blue-winged Teal.** *Querquedula discors* (Linn.).

About a dozen birds were flushed in various bayous about the

lake and, as both sexes were seen, it is not unlikely that they breed here. These birds were not cripples.

11. **Wood Duck.** *Aix sponsa* (Linn.).

To one familiar with the scarcity of this duck in the northern states, its abundance in Lake Caddo was a revelation. From twelve to over fifty birds were seen daily. Breeds commonly throughout the region, and the general opinion seems to be that, while greatly decreased in numbers over former years, the wood duck is at the present time doing a little better than holding its own. However, large numbers are undoubtedly killed during the hunting seasons in the general duck slaughter which takes place on the lake.

12. **Wood Ibis.** *Mycteria americana* Linn.

A single individual was found in the tangle of cypress and moss of Eagle Nest Island. Very rare in this part of the state.

13. **American Bittern.** *Botaurus lentiginosus* (Montag.).

Two bitterns were found in Goose Prairie, and three near Baldwin.

14. **Least Bittern.** *Ixobrychus exilis* (Gmel.).

Breeding in considerable numbers where suitable rushes afford a nesting site. More common in bays and pockets than along the lake proper.

15. **Ward Heron.** *Ardea herodias wardi* Ridgway.

Seventeen nests were found on Eagle Nest Island. The nests were placed in the tops of cypress trees, the lower branches being occupied by the anhinga nests. The nests all contained young almost ready to fly. These birds were typically *wardi*. Other great blue herons seen around the lake lead the writer to believe that *Ardea herodias herodias* also occurs in the neighborhood, but he is unable at the present time to offer any data.

16. **American Egret.** *Herodias egretta* Gmelin.

At the edge of this same herony, which contained ward herons and aningas, two nests of this species were found—the last remnant of a colony. Once abundant about Caddo, this species is practically gone from this region. It is highly possible that in other, more inaccessible sections of the vast cypress swamp surrounding the lake there are other isolated remnants, and perhaps also some *Egretta candidissima*, and it might be possible, by jealous guarding of this area, to bring back these nearly exterminated species to the avifauna of Texas.

17. **Louisiana Heron.** *Hydranassa tricolor ruficollis* (Gosse).

Common in all parts of the lake visited. Breeds on Eagle Nest Island.

18. **Little Blue Heron.** *Florida caerulea* Linn.

A small colony breeds on Eagle Nest Island. When this herony was visited the young were for the most part out of the nest. Both adults and young were often seen about the lake.

19. **Green Heron.** *Butorides virescens virescens* Linn.
A common breeding species, seen practically every day.
20. **Black-crowned Night Heron.** *Nycticorax nycticorax naevius* (Bodd.).
Several seen near Fort Caddo and Baldwin, and probably a breeding species.
21. **Yellow-crowned Night Heron.** *Nyctanassa violacca* (Linn.).
A single individual seen on Goose Prairie is the only bird of this species seen.
22. **King Rail.** *Rallus elegans* Aud.
Seen only once, on Goose Prairie, but heard several times about Baldwin. Probably breeding.
23. **Florida Gallinule.** *Gallinula galcata* (Licht.).
Five birds seen on Goose Prairie, where they probably breed.
24. **American Coot.** *Fulica americana* Gmel.
Seen in small numbers when rushy or reedy shores were found, and where the species breeds.
25. **Woodcock.** *Philohela minor* (Gmel.).
Of rather rare occurrence about Lake Caddo, but more common about Marshall. The center of distribution seems to be the "Big Thicket" of San Augustine county to the south, and the birds probably come up through the tangle of the Sabine river bottom.
26. **Wilson's Snipe.** *Gallinago delicata* (Ord.).
One flushed from a field about five miles east of Marshall on May 31. Probably a late straggler, as the birds are not known to occur during the summer, though abundant in the spring and fall.
27. **Upland Plover.** *Bartramia longicauda* (Bechst.).
Two seen near Marshall on May 31. Probably late migrants.
28. **Spotted Sandpiper.** *Actitis macularia* (Linn.).
Only one seen. What it was doing so far south on May 30 is a question.
29. **Killdeer.** *Oxyechus vociferus* (Linn.).
Common summer resident and breeding species. Abundant about Marshall and in the fields beyond the swamps in the vicinity of the lake. Eggs about to hatch on June 1.
30. **Quail.** *Colinus virginianus virginianus* (Linn.).
Abundant in all suitable localities. The quail is still abundant in eastern Texas, but let the slaughter go on as it now is, and eastern Texas will soon find itself in the same predicament as the northern and eastern states regarding this most valuable bird. No one pays the slightest attention to the fact that it feeds on the cotton boll weevil (*Anthonomus grandis*).
31. **Attwater Prairie Chicken.** *Tympanuchus americanus attwateri* (Bend.).
Rare breeding species. Formerly abundant, now nearly gone from this region. One small flock of three was seen near Marshall.

32. **Wild Turkey.** *Melcagris gallopavo silvestris* Vieillot.

Still found some numbers in northeastern Harrison county by those who know its haunts. Mr. W. J. Rosborough of Marshall, got an eighteen pound gobbler during the hunting season of 1919, in the heavily wooded hills about Lake Caddo, and he assures the writer that there are more where this one came from. Resident breeding species.

33. **Mourning Dove.** *Zenaidura macroura carolinensis* (Linn.).

Abundant resident and breeding species throughout the county. Being classed as a game bird, great numbers are killed yearly during the three and a half months' open season. With the increase which occurs yearly in the number of hunters, the present abundance of the mourning dove can not long continue.

34. **Turkey Vulture.** *Cathartes aura septentrionalis* (Linn.).

The common vulture of the region. Seen daily in all regions visited. Breeds on the ground under brush and tangled vines.

35. **Black Vulture.** *Catharista urubu* (Vieill.).

Much less common than the above vulture, only two birds of this species being seen, both near Port Caddo. Resident breeder.

36. **Swallow-tailed Kite.** *Elanoides forficatus* (Linn.).

Rare. Two seen flying low over camp at Baldwin on June 11.

37. **Red-tailed Hawk.** *Buteo borealis borealis* (Gmel.).

Seen and heard daily in all parts of the county visited. Seen carrying food on June 3, indicating possible breeding in the vicinity of Lake Caddo.

38. **Cooper's Hawk.** *Accipiter cooperi* (Bonap.).

Known locally as the "blue darter." Abundant breeding species.

39. **Florida Red-shouldered Hawk.** *Buteo lineatus alleni* Ridgway.

Several seen about Port Caddo, Baldwin, and Star Ranch.

40. **Sparrow Hawk.** *Falco sparverius sparverius* Linn.

Abundant breeding resident. Found more commonly about the edges of the woods and near open fields than elsewhere.

41. **Osprey.** *Pandion haliaëtus carolinensis* (Gmel.).

Considering the wonderful food supply available for this bird, and the abundant nesting sites, it is surprisingly uncommon. Only four fish hawks were seen—three at Baldwin, and one at Eagle Nest Island.

42. **Florida Barred Owl.** *Strix varia alleni* Ridgway.

Heard a number of times about Goose Prairie and elsewhere, but seen only once, near Port Caddo. Common breeding species.

43. **Screech Owl.** *Otus asio asio* (Linn.).

Not seen, but heard at Star Ranch and Port Caddo. Said to be common, and undoubtedly breeds throughout the region.

44. **Great Horned Owl.** *Bubo virginianus virginianus* (Gmelin).

Common breeding species about the heavy timber, especially about Baldwin and Port Caddo.

45. **Yellow-billed Cuckoo.** *Coccyzus americanus americanus* (Linn.).

The only species of cuckoo seen. Fairly common about Marshall; two near Star Ranch, and heard in numerous places. Old cuckoo nest found near Baldwin.

46. **Kingfisher.** *Ceryl alcyon* (Linn.).

Common in some places about the lake, but not as abundant as might be expected considering the abundance of food. However, there are but few available nesting sites near the lake, which may account for the few seen during the breeding season.

47. **Southern Hairy Woodpecker.** *Dryobates villosus auduboni* (Swain.)

Common breeding species, seen many times.

48. **Southern Downy Woodpecker.** *Dryobates pubescens pubescens* (Linn.).

Several seen near Marshall, and two near Star Ranch. Fairly common breeding species.

49. **Pileated Woodpecker.** *Phlaeotomus pileatus pileatus* (Linn.).

Still found in some numbers about the lake, but is still on the decline in other localities in the county. The heavy timber about the lake offers a good protection to the species, and it is safe here for some time to come.

50. **Red-headed Woodpecker.** *Melanerpes erythrocephalus* (Linn.).

A common breeding species about the woodlots; not common about the lake.

51. **Red-bellied Woodpecker.** *Centurus carolinus* (Linn.).

Two seen near Marshall, and none about the lake.

52. **Flicker.** *Colaptes auratus auratus* (Linn.).

Common breeding species near Marshall, and seen several times at Star Ranch.

53. **Chuck-will's-widow.** *Antrostomus carolinensis* (Gmel.).

Never seen, but heard night after night at all points on the lake. A common breeding species.

54. **Whip-poor-will.** *Antrostomus vociferus vociferus* (Wils.).

One seen at Star Ranch, but the species was heard calling nightly at all points on the lake visited. The preceding species was heard more commonly about Port Caddo, while the whip-poor-will predominated at Star Ranch and Baldwin.

55. **Nighthawk.** *Chordeiles virginianus* (Gmel.).

The writer is unable to say whether this nighthawk, seen several times over Marshall and quite frequently about Port Caddo, is *C. virginianus virginianus* or *C. virginianus chapmani*, as he was unable to collect any specimens for identification.

56. **Chimney Swift.** *Chaturus pelagica* (Linn.).

Abundant about Marshall, and about the negro cabins throughout the region. Breeding in the chimney of the ranch house at Star Ranch.

57. **Ruby-throated Hummingbird.** *Archilocus colubris* (Linn.).

Seen several times about the flower gardens in Marshall, and once at Port Caddo.

58. **Kingbird.** *Tyrannus tyrannus* (Linn.).

Common about Marshall; less so near the lake. Nest and eggs found at Star Ranch.

59. **Crested Flycatcher.** *Myiarchus crinitus* (Linn.).

One seen at Jefferson (Marion county), just over the Harrison county line, at the northwest end of the lake.

60. **Phœbe.** *Sayornis phœbe* (Lath.).

Common breeding species about Marshall and the cabins in that vicinity. Nesting near Star Ranch.

61. **Wood Pewee.** *Myiochanes virens* (Linn.).

Found breeding in the open woods near Star Ranch. More common in the woodlots about Marshall.

62. **Blue Jay.** *Cyanocitta cristata cristata* (Linn.).

An abundant—and noisy—breeding species throughout the region, though less common about the lake than elsewhere.

63. **Crow.** *Corvus brachyrhynchos brachyrhynchos* Brehm.

Common breeding species throughout the region.

64. **Cowbird.** *Molothrus ater ater* (Bodd.).

Rather common breeding species, eggs having been found in one case in the nest of the Prothonotary warbler.

65. **Red-winged Blackbird.** *Agelaius phœnicus phœnicus* (Linn.).

Common breeder, though apparently rather local in distribution. Lack of good breeding grounds explains the scarcity to a considerable extent. Nesting on Tow-head Island.

66. **Meadowlark.** *Sturnella magna magna* (Linn.).

Rather common about Marshall, but wanting from the immediate vicinity of the lake. The writer could get no evidence of any subspecies in the vicinity, though he believes it possible that *S. neglecta* may also occur in the region. A breeding species.

67. **Orchard Oriole.** *Icterus spurius* (Linn.).

Seen in numbers about Marshall. At Star Ranch a nest containing eggs was found in a young cypress tree, fully three hundred yards from the nearest shore.

68. **Baltimore Oriole.** *Icterus galbula* (Linn.).

Apparently not common. An old nest was found at the outskirts of Marshall, but no birds were seen.

69. **Bronzed Grackle.** *Quiscalus quiscula ancus* (Ridgw.).

Common about the smaller towns and in the outskirts of Marshall. Not seen at the lake. Breeding in oak trees.

70. **English Sparrow.** *Passer domesticus* (Linn.).

Abundant everywhere about the towns and negro houses.

71. **Lark Sparrow.** *Chondestes grammacus grammacus* (Say.).

Rather common about Marshall, but not seen about the lake. Nest and eggs found near Marshall June 2.

72. **Chipping Sparrow.** *Spizella passerina passerina* (Bechstein).
Several seen at Marshall and Star Ranch, where a nest with young was found. Breeds in high bushes.
73. **Field Sparrow.** *Spizella pusilla pusilla* (Wilson).
In song in the fields about Marshall and near—but not along—the lake; not very common, though breeding.
74. **Cardinal.** *Cardinalis cardinalis cardinalis* (Linn.).
Abundant breeding species throughout the region.
75. **Indigo Bunting.** *Cyanospiza cyanea* (Linn.)
Fairly common throughout the lake region. Nesting on the main land near Eagle Nest Island.
76. **Scarlet Tanager.** *Piranga erythromelas* Vieill.
A single male seen at Marshall June 2; may have been a straggler or late migrant.
77. **Summer Tanager.** *Piranga rubra rubra* (Linn.).
A pair nesting in the woods at Star Ranch is the only evidence at hand of the presence of these birds.
78. **Purple Martin.** *Progne subis subis* (Linn.).
Common breeding species throughout the region. Nests near the lake in houses put out by the negroes.
79. **Bank Swallow.** *Riparia riparia* (Linn.).
Several colonies found near Marshall. Common where conditions are favorable.
80. **White-rumped Shrike.** *Lanius ludovicianus excubitorides* Swains.
Three seen near Marshall. Grasshoppers stuck on barbed wire fences gave ample evidence of the presence of these birds.
81. **Red-eyed Vireo.** *Vireosylva olivacea* (Linn.).
Seen only occasionally, but heard constantly at Star Ranch. Nest and young found June 9.
82. **Warbling Vireo.** *Vireosylva gilva gilva* (Vieill.).
Less common than the preceding species, but seen and heard several times at Star Ranch and Baldwin.
83. **White-eyed Vireo.** *Vireo griseus griseus* (Bodd.).
Seen twice at Port Caddo. In song, and probably breeding.
84. **Black and White Warbler.** *Mniotilta varia* (Linn.).
Seen at Baldwin, carrying a caterpillar, but no nest was found.
85. **Prothonotary Warbler** *Protonotaria citrea* (Bodd.).
Abundant in the extreme everywhere about the lake. Nesting in holes in trees and rotten stumps. Three nests containing five eggs were found, though the normal number was but four. Probably several hundred individuals of this glorious warbler were seen or heard.
86. **Parula Warbler.** *Compsothlypis americana usneæ* Brewster.
Common all about the lake, where it was probably nesting, though not nearly as abundant as the Prothonotary warbler.
87. **Pine Warbler.** *Dendroica vigorsi* (Aud.).

Seen several times about Marshall in a good stand of young pines. No sign of its presence in cypress about the lake.

88. **Yellow-breasted Chat.** *Icteria virens virens* (Linn.).

Common breeding species near Marshall and Port Caddo.

89. **Mockingbird.** *Mimus polyglottos polyglottos* (Linn.).

Abundant everywhere except in the immediate vicinity of the lake. First brood of young out of nest before May 28, as young birds out of the nest were frequently seen about Marshall.

90. **Catbird.** *Dumetella carolinensis* (Linn.).

Several seen near Jefferson at the north end of the lake, but there was no evidence of breeding.

91. **Brown Thrasher.** *Toxostoma rufum* (Linn.).

Several seen and heard in full song near Port Caddo and Baldwin, and quite common about Marshall. No breeding evidence.

92. **Carolina Wren.** *Thryothorus ludovicianus ludovicianus* (Lath.).

Seen about Jefferson and Marshall; one specimen at each place.

93. **Bewick's Wren.** *Thryomanes bewicki bewicki* (Aud.).

A single bird of this species from Port Caddo.

94. **White-breasted Nuthatch.** *Sitta carolinensis carolinensis* Lath.

Several seen, both about Marshall and near the lake. Probably more common in the pine woods than in cypress territory.

95. **Tufted Titmouse.** *Baeolophus bicolor* (Linn.).

Not uncommon as a breeding species near Marshall and about the lake. Nesting in holes in dead stubs, and often driving out bluebirds and chickadees which had previous possession.

96. **Plumbeous Chickadee.** *Penthestes carolinensis agilis* Senn.

A common breeding species throughout the region. Nesting near Star Ranch and Port Caddo.

97. **Blue-gray Gnatcatcher.** *Polioptila caerulea caerulea* (Linn.).

Several seen and, near Jefferson, a pair was found working on a nest.

98. **Wood Thrush.** *Hylocichla mustelina* (Gmel.)

Seen only once near Baldwin, but the song was heard repeatedly at points along the lake.

99. **Robin.** *Planesticus migratorius migratorius* (Linn.).

Rare in summer in this region, though occasionally a breeding species. Two old nests were seen at Marshall.

100. **Bluebird.** *Sialia sialis sialis* (Linn.).

A common breeding species about the towns and fields, but not common about the lake. One nest in a cypress, 150 yards from shore.

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